

# SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

2102-F-21-R-41

**Name:** Lake Thompson

**Counties:** Kingsbury and Miner

**Legal Description:** T110N-R55W-Sec.20-22, 28-33; T109N-R55W-Sec.4-9, 16-17;  
T110N-R56W-Sec.36; T109N-R56W-Sec.1.

**Location from nearest town:** 6 miles south and 4 miles east of DeSmet, SD.

**Dates of present survey:** August 4-6, 2008 (netting); Sept. 15, 2008 (electrofishing)

**Dates of last survey:** August 6-8, 2007 (netting); Sept. 11, 2007 (electrofishing)

Primary Game Species	Other Species
Walleye	Northern Pike
Yellow Perch	Black Crappie
	Smallmouth Bass
	Black Bullhead
	White Sucker
	Common Carp

## PHYSICAL DATA

**Surface area:** 12,455 acre

**Maximum depth:** 26 feet

**Volume:** 148,692 acre-feet

**Contour map available:** Yes

**OHWM elevation:** None set

**Outlet elevation:** None set

**Lake elevation observed during the survey:** 8 feet low

**Beneficial use classifications:** (4) Warmwater permanent fish propagation, (7) immersion recreation, (8) limited-contact recreation and (9) fish and wildlife propagation and stock watering.

**Watershed area:** 263,044 acres

**Mean depth:** 14.5 feet

**Shoreline length:** 44.6 miles

**Date mapped:** 2002

**Date set:** NA

**Date set:** NA

## Introduction

Lake Thompson is a very large, natural lake located in central Kingsbury County. The lake was named for John Thompson, a pioneer farmer and Civil War veteran. Lake Thompson had been nothing but a shallow marsh until heavy precipitation in the early 1980s caused the lake to grow to over 16,000 acres and almost 30 feet deep. It is now one of the more important fisheries in eastern South Dakota.

## **Ownership of Lake and Adjacent Lakeshore Properties**

The State of South Dakota Listing of Meandered Lakes lists 8,000 acres of the original lakebed as meandered. The balance of lake ownership is divided between private landowners, the South Dakota Department of Game, Fish, and Parks (GFP), and the United States Fish and Wildlife Service. The GFP Wildlife Division manages the fishery and Game Production Areas while the Parks Division manages the Recreation and Lake Access Areas.

## **Fishing Access**

The Northeast Access Area, located on the northeast corner of the lake, has a double lane boat ramp, dock, parking lot, public toilet and shore fishing access. The Lake Thompson Recreation Area, also located on the northeast shore of the lake, has a double lane boat ramp, dock, public toilet, parking lot, campgrounds, swim beach, and shore fishing access. The North Access Area, located on the northwestern shore of the lake, has a boat ramp, dock, public toilet and shore fishing access. The West Access Area, located on the west shore of the lake, has a double lane boat ramp, dock, public toilet, parking lot, and shore fishing access. Recent drought has lowered lake levels and some of these access areas may not be usable in 2009.

## **Field Observations of Water Quality and Aquatic Vegetation**

During the lake survey, the Secchi depth measurement was 1.0 m (40.0 inches). Sago pondweed (*Potamogeton pectinatus*) was observed during the survey. Water temperatures were around 25.6°C (78 °F).

# **BIOLOGICAL DATA**

## **Methods:**

Lake Thompson was sampled on August 4-6, 2008 with five overnight gill-net sets and 11 overnight trap-net sets. The trap nets are constructed with 19-mm-bar-mesh ( $\frac{3}{4}$  in) netting, 0.9 m high x 1.5 m wide (3 ft high x 5 ft wide) frames and 18.3 m (60 ft) long leads. The gill nets are 45.7 m long x 1.8 m deep (150 ft long x 6 ft deep) with one 7.6 m (25 ft) panel each of 13, 19, 25, 32, 38 and 51-mm-bar-mesh ( $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1, 1 $\frac{1}{4}$ , 1 $\frac{1}{2}$ , and 2 in) monofilament netting. Two hours of nighttime electrofishing was done on September 15, 2008 to evaluate walleye recruitment. Sampling sites are displayed in Figure 7.

## **Results and Discussion:**

## **Gill Net Catch**

Walleye (59.3%) and common carp (17.6%) were the most abundant species in the gill-net catch this year (Table 1). Yellow perch, bigmouth buffalo, and northern pike were also sampled.

**Table 1.** Total catch from five overnight gill net sets at Lake Thompson, Kingsbury County, August 4-6, 2008.

Species	No.	%	CPUE <sup>1</sup>	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Walleye	64	59.3	12.8	±2.0	35.5	27	3	88
Common Carp	19	17.6	3.8	±2.8	4.4	29	18	100
Yellow Perch	14	13.0	2.8	±1.5	35.6	57	50	117
Bigmouth Buffalo	10	9.3	2.0	±1.5	0.0	0	0	108
Northern Pike	1	0.9	0.2	±0.3	1.3	--	--	--

\* 10 years (1998-2007)

## **Trap Net Catch**

Walleye (54.8%) and common carp (29.3%) were the most abundant species in the trap net catch (Table 2). Other species included black crappie, northern pike, bigmouth buffalo, white sucker, smallmouth bass, and yellow perch.

**Table 2.** Total catch from eleven overnight trap net sets at Lake Thompson, Kingsbury County, August 4-6, 2008.

Species	No.	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Walleye	155	54.8	14.1	±4.5	8.2	22	3	87
Common Carp	83	29.3	7.5	±2.8	10.5	55	43	95
Black Crappie	20	7.1	1.8	±1.2	4.2	100	65	103
Northern Pike	14	4.9	1.3	±0.4	3.7	93	64	76
Bigmouth Buffalo	4	1.4	0.4	±0.4	0.0	--	--	--
White Sucker	3	1.1	0.3	±0.2	0.4	--	--	--
Smallmouth Bass	3	1.1	0.3	±0.2	0.8	--	--	--
Yellow Perch	1	0.4	0.1	±0.1	0.4	--	--	--

\* 10 years (1998-2007)

## **Walleye**

**Management objective:** Maintain a walleye population with a gill-net CPUE of at least 20, a PSD range of 30-60, and a growth rate of 14 inches by age-3.

Walleye gill-net CPUE declined significantly in 2008 and is now below our management objective (Table 3). Age-1 (47%) and age-2 (38%) fish comprised the majority of the 2008 catch.

Walleye growth is slightly above the statewide mean (Table 4) and condition (mean Wr) has varied little over the past four years (Table 3).

<sup>1</sup> See Appendix A for definitions of CPUE, PSD, and mean Wr.

**Table 3.** Walleye gill-net CPUE, PSD, RSD-P and mean Wr for Lake Thompson, Kingsbury County, 1999-2008.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean*
CPUE	56.7	43.3	49.0	31.7	22.8	16.0	34.0	26.0	26.5	12.8	35.5
PSD	36	55	32	49	27	24	38	22	33	27	34
RSD-P	3	8	8	4	8	4	3	1	2	3	4
Mean Wr	95	90	90	94	83	89	91	88	90	88	90

\*10 years (1998-2007)

**Table 4.** Weighted mean length at capture (mm) for walleye captured in gill nets in Lake Thompson, Kingsbury County, 2003-2008. Note: sampling was conducted at approximately the same time during each year allowing comparisons among years to monitor growth trends. Sample size in parentheses.

Year	1	2	3	4	5	6	7	8	9	10	11	12
2008 (64)	212 (30)	343 (24)	--	441 (7)	--	--	493 (2)	--	495 (1)	--	--	--
2007 (91)	282 (48)	331 (8)	410 (28)	438 (4)	--	409 (1)	--	654 (1)	630 (1)	--	--	--
2006 (100)	290 (4)	343 (83)	403 (4)	--	466 (3)	464 (6)	--	--	--	--	--	--
2005 (133)	260 (73)	350 (6)	370 (15)	419 (24)	409 (10)	433 (1)	427 (1)	626 (2)	617 (1)	--	--	--
2004 (88)	262 (5)	321 (17)	347 (38)	375 (19)	472 (5)	508 (1)	532 (1)	607 (1)	--	681 (1)	--	--
2003 (138)	245 (10)	312 (86)	372 (9)	453 (10)	497 (15)	508 (6)	600 (1)	599 (1)	--	--	--	--

Fall electrofishing indicated poor natural reproduction in 2008 but the large number of age-1 walleyes sampled suggested good first-winter survival of fish from the strong 2007 year class. The size and condition of age-0 walleyes were similar to previous years but the age-1 walleyes were generally smaller.

**Table 5.** Age-0 and age-1 walleyes sampled during 2 hours of nighttime electrofishing on Lake Thompson, Kingsbury County, 1999-2008.

Year	Stocking	Age-0 CPH	80% C.I.	% stocked	Mean length (range; mm)	Wr	Age-1 CPH	80% C.I.	Mean length (range; mm)	Wr
2008	none	13	7-18		149 (137-161)	103	110	73-147	236 (182-277)	83
2007	none	214	134-294		148 (111-195)	87	2	0-4	332 (324-347)	84
2006	fry <sup>†</sup>	43	29-57	4	203 (167-236)	91	2	0-2	324 (317-328)	85
2005	none	5	2-8		197 (181-200)	104	50	34-67	289 (250-323)	88
2004	fry	290	132-447	74	131 (110-170)	93	2	1-3	283 (270-290)	85
2003	none	16	6-26		169 (158-181)	94	4	2-6	255 (232-271)	83
2002	none	78	42-114		154 (127-186)	104	13	4-21	260 (218-188)	87
2001	none	202	136-268		169 (129-216)	105	10	6-13	257 (245-269)	89
2000	none	231	117-345		153 (120-192)	93	52	38-66	238 (203-290)	83
1999	none	155	99-211							

<sup>†</sup> Stocked with 17,935 large fingerlings (5.0/lb) after electrofishing was completed.

## **Yellow Perch**

**Management objective:** Maintain a yellow perch population with a gill-net CPUE of at least 30 and a PSD range of 30-60.

Yellow perch gill-net CPUE remains low (Table 6). The population age structure suggests limited, but consistent natural recruitment, but no large year classes have been produced since 2001 (Table 7). The sampled perch were in excellent condition and their growth remains above statewide, regional and large lakes means (Table 7).

Summer angling catch has declined with gill-net CPUE (Table 13); however, two of the four best winter perch catches have occurred in the past two years (Table 11).

**Table 6.** Yellow perch gill-net CPUE, PSD, RSD-P and mean Wr in Lake Thompson, Kingsbury County, 1999-2008.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean*
CPUE	64.0	34.7	45.2	54.7	6.5	16.3	7.3	3.3	4.0	2.8	35.6
PSD	38	64	65	20	87	89	76	100	100	57	69
RSD-P	24	17	25	7	3	36	59	54	50	50	32
Mean Wr	106	116	117	117	110	112	107	112	122	117	113

\*10 years (1998-2007)

**Table 7.** Average back-calculated lengths (mm) for each age class of yellow perch in Lake Thompson, Kingsbury County, 2008.

Year Class	Age	N	Back-calculation Age							
			1	2	3	4	5	6	7	8
2007	1	6	97							
2005	3	1	74	187	222					
2004	4	4	86	190	238	265				
2003	5	1	110	204	268	286	296			
2001	7	2	100	168	219	257	283	297	304	
<b>All Classes</b>		<b>14</b>	<b>94</b>	<b>187</b>	<b>237</b>	<b>270</b>	<b>289</b>	<b>297</b>	<b>304</b>	
Statewide Mean			86	145	190	220	242			
Region III Mean			94	159	208	242	281			
LLI* Mean			86	146	192	225	249			

\*Large Lakes and Impoundments (>150 acres)

## **Black Crappie**

Black crappie abundance remains very low (Table 8) due to limited recruitment. However, the creel survey indicates a viable fishery still exists (Tables 11-15).

Growth exceeds statewide, regional and large lake and impoundment means (Table 9) and sampled crappies ranged in length from 20-32 cm (7.9-12.6 in) with an average length of 27 cm (10.6 in) (Figure 3). Sixty-five percent of the crappies sampled were over 25 cm (10 in).

**Table 8.** Black crappie trap-net CPUE, PSD, RSD-P and mean Wr in Lake Thompson, Kingsbury County, 1999-2008.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean*
CPUE	0.5	11.6	5.4	13.0	1.3	1.4	2.5	0.8	1.1	1.8	4.2
PSD	--	94	96	18	100	97	100	--	100	100	81
RSD-P	--	24	74	16	22	19	100	--	92	65	49
Mean Wr	--	128	122	125	114	92	107	--	106	103	117

\*10 years (1998-2007)

**Table 9.** Average back-calculated lengths (mm) for each age class of black crappie in Lake Thompson, Kingsbury County, 2008.

Year Class	Age	N	Back-calculation Age							
			1	2	3	4	5	6	7	8
2006	2	2	83	178						
2005	3	12	82	170	243					
2002	6	1	118	204	248	276	295	305		
2001	7	5	114	192	252	275	296	308	315	
<b>All Classes</b>		<b>20</b>	<b>99</b>	<b>186</b>	<b>248</b>	<b>276</b>	<b>296</b>	<b>306</b>	<b>315</b>	
Statewide Mean			93	183	221	252	275			
Region III Mean			93	185	225	259	284			
LLI* Mean			90	192	241	272	299			

\*Large Lakes and Impoundments (>150 acres)

## **Northern Pike**

As with other species, northern pike recruitment has been lacking due to declining water levels. CPUE will probably stay low (Table 10) until water levels increase and a success spawn occurs. The mean length of sampled fish was 750 mm (29.5 in) (Figure 4).

**Table 10.** Northern pike trap-net CPUE, PSD, RSD-P and mean Wr in Lake Thompson, Kingsbury County, 1999-2008.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Mean*
CPUE	5.7	7.6	3.9	4.0	5.1	0.9	4.7	0.8	0.5	1.3	3.7
PSD	74	84	97	82	28	--	96	--	--	93	75
RSD-P	9	24	5	28	19	--	38	--	--	64	19
Mean Wr	88	87	89	84	72	--	80	--	--	76	85

\*10 years (1998-2007)

## **All Species**

Overall, CPUE for most species remained low in 2008 (Table 11) due to poor reproduction and recruitment caused by several years of decreasing water levels.

**Table 11.** Gill-net (GN) and trap-net (TN) CPUE for all fish species sampled in Lake Thompson, Kingsbury County, 1999-2008.

Species	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
SPS (GN)	2.7	1.3	2.2	1.0		3.0		0.8	0.5	
SPS (TN)										
COC (GN)	7.3	4.0	2.2	5.0	0.7	0.7	4.0	10.5	7.3	3.8
COC (TN)	22.9	11.9	4.1	4.2	5.1	5.8	3.7	4.2	13.7	7.5
WHS (GN)		3.7	0.7	0.3	0.2		0.8	0.3		
WHS (TN)	0.2	1.8	0.9	0.3		0.3	0.5			0.3
BIB (GN)									0.3	2.0
BIB (TN)									0.2	0.4
BLB (GN)	75.3	50.7	5.5	141.7	154.5	10.8				
BLB (TN)	989.0	59.7	145.1	292.4	122.1	4.0	2.3	0.7	0.1	
NOP (GN)	1.7	1.7	0.7	1.7	0.8	0.8	0.3	1.5		0.2
NOP (TN)	5.7	7.6	3.9	4.0	5.1	0.9	4.7	0.8	0.5	1.3
WHB (GN)								0.3		
WHB (TN)										
BLG (GN)										
BLG (TN)			0.1							
SMB (GN)		0.3	0.7	1.7	0.3	0.2	0.8	0.3	0.3	
SMB (TN)	0.1	1.7	0.3	1.8	2.0	0.3	0.2	0.4	0.4	0.3
BLC (GN)	5.0	0.3	9.5	4.3	0.3	0.8	0.5	1.0	0.3	
BLC (TN)	0.5	11.6	5.4	13.0	1.3	1.4	2.5	0.8	1.1	1.8
YEP (GN)	64.0	34.7	45.2	54.7	6.5	16.3	7.3	3.3	4.0	2.8
YEP (TN)	0.2	0.3	0.4	0.4	0.3					0.1
WAE (GN)	56.7	43.3	49.0	31.7	22.8	16.0	34.0	26.0	26.5	12.8
WAE (TN)	6.2	4.5	5.2	7.3	6.9	1.6	26.5	1.2	3.5	14.1

SPS (Spottail Shiner), COC (Common Carp), WHS (White Sucker), BIB (Bigmouth Buffalo), BLB (Black Bullhead), NOP (Northern Pike), WHB (White Bass), BLG (Bluegill), SMB (Smallmouth Bass), BLC (Black Crappie), YEP (Yellow Perch), WAE (Walleye)

## **Creel Survey Results (Winter)**

Winter 2007-08 fishing pressure increased substantially from previous winters (Table 12). Good ice conditions and good fishing resulted in the highest March fishing pressure ever recorded on this lake (Figure 5). South Dakota residents accounted for about 95% of the total pressure. About 45% of anglers were primarily targeting walleyes, and a much higher than average percentage of anglers stated that they were targeting anything that bit (35%). Average trip length (nearly 9 hours/trip) was very high due to the large number of anglers staying overnight or spending the entire weekend in their permanent ice shacks.

Walleye catch and harvest were higher than in the previous three winters (Table 12), but the harvest rate was still relatively low (Table 13). Nearly 60% of the walleyes harvested were less than 35.6 cm (14 inches) long (Figure 7) and less than a third of the catch was harvested. The walleye catch rate was highest in March.

Yellow perch catch and harvest were down from winter 2006-07 (Table 12), but were still higher than in many of the past winters (Table 13). The best fishing for yellow

perch occurred in March and most of the fish harvested were 25-33 cm (10-13 inches) long.

There was a fishery for black crappie again this winter (Table 12) and most harvested fish measured 30-34 cm (12-13 inches) long.

Angling parties were asked the question, "What would you consider to be the best daily limit for panfish (perch, crappies, and bluegills)?" The percent that responded to each of the following choices was as follows: 5 (1%), 10 (39%), 15 (23%), 20 (5%), 25 (31%) and 25+ (1%).

**Table 12.** Estimates of fishing pressure and catch (harvest) of fish on Lake Thompson from December through March, 1997-2008.

Year	Pressure (h)	Walleyes Catch (Harvest)	Northern Pike Catch (Harvest)	Yellow Perch Catch (Harvest)	Black Crappies Catch (Harvest)	SM Bass Catch (Harvest)
2007-08	45,406	5,795 (1,798)	92 (80)	2,376 (1,154)	1,297 (804)	9 (5)
2006-07	30,139	2,115 (1,307)	262 (202)	3,380 (3,278)	1,322 (1,316)	33 (3)
2005-06	18,587	1,912 (1,136)	163 (107)	861 (728)	193 (185)	57 (36)
2004-05	28,202	3,040 (2,238)	1,177 (842)	1,673 (1,566)	3,172 (3,152)	50 (50)
2003-04	27,400	7,825 (3,063)	1,314 (786)	366 (351)	1,339 (1,317)	34 (4)
2002-03	29,021	9,252 (3,954)	1,079 (715)	961 (732)	187 (187)	0 (0)
2001-02	12,011	1,886 (542)	95 (47)	957 (944)	18 (18)	11 (11)
2000-01	17,690	8,019 (2,659)	1,368 (1,082)	866 (795)	0 (0)	17 (0)
1999-00	15,065	5,462 (1,963)	1,182 (468)	1,390 (683)	0 (0)	56 (4)
1998-99	20,162	5,080 (1,910)	670 (257)	5,618 (4,606)	36 (36)	0 (0)
1997-98	44,477	20,079 (7,150)	2,796 (1,366)	7,458 (7,324)	1,077 (1,077)	0 (0)

**Table 13.** Number of parties interviewed and estimates of catch and harvest rate (number/hour) of fish on Lake Thompson from December through March, 1997-2008.

Year	Number of Interviews	Walleyes Catch (Harvest)	Northern Pike Catch (Harvest)	Yellow Perch Catch (Harvest)	Black Crappies Catch (Harvest)	SM Bass Catch (Harvest)
2007-08	623	0.13 (0.06)	0.002 (0.002)	0.05 (0.05)	0.03 (0.03)	0.0002 (0.0001)
2006-07	499	0.07 (0.04)	0.009 (0.007)	0.11 (0.11)	0.04 (0.04)	0.001 (0.0001)
2005-06	420	0.10 (0.06)	0.009 (0.006)	0.05 (0.04)	0.01 (0.01)	0.003 (0.002)
2004-05	492	0.11 (0.08)	0.04 (0.03)	0.06 (0.05)	0.11 (0.11)	0.002 (0.002)
2003-04	327	0.29 (0.11)	0.05 (0.03)	0.01 (0.01)	0.05 (0.05)	0.001 (0.0001)
2002-03	391	0.32 (0.14)	0.04 (0.02)	0.03 (0.03)	0.006 (0.006)	0 (0)
2001-02	185	0.15 (0.05)	0.008 (0.004)	0.08 (0.08)	0.002 (0.002)	0.001 (0.001)
2000-01	377	0.45 (0.15)	0.08 (0.03)	0.09 (0.05)	0 (0)	0.004 (0.003)
1999-00	398	0.36 (0.13)	0.08 (0.02)	0.07 (0.03)	0 (0)	0.01 (0.01)
1998-99	345	0.25 (0.10)	0.03 (0.01)	0.28 (0.23)	0.01 (0.01)	0 (0)
1997-98	567	0.45 (0.16)	0.06 (0.03)	0.17 (0.16)	0.02 (0.02)	0 (0)



## **Creel Survey Results (Summer)**

Fishing pressure was down from summer 2007 and similar to 2006 (Table 14). Over 50% of the fishing pressure occurred in June (Figure 5). About 96% of angling parties interviewed were targeting walleyes and 90% were South Dakota residents.

Walleye catch rate was at a 10-year high; however, harvest rate was similar to previous years because many of the walleyes caught were too small to keep (Tables 14 and 15). Nearly 65% of walleyes harvested were 35.6 cm (14 inches) or longer (Figure 6) and over 10% of parties interviewed harvested a limit of fish.

Yellow perch catch and harvest was at a 12-year low (Table 14), whereas black crappie catch rate was at a 12-year high (Table 15). Most of the black crappies harvested measured 23-36 cm (9-14 inches) long. Smallmouth bass and northern pike catch and harvest continued to decline.

Angling parties were asked the question, "What would you consider to be the best daily limit for panfish (perch, crappies, and bluegills)?" The percent that responded to each of the following choices was as follows: 5 (0%), 10 (7%), 15 (16%), 20 (19%), 25 (52%) and 25+ (6%). The response pattern for summer anglers on Lake Thompson and Sinai was different from other summer and winter fisheries which is somewhat puzzling.

**Table 14.** Estimates of fishing pressure and catch (harvest) of fish on Lake Thompson from May through August, 1997-2008.

Year	Pressure (h)	Walleye Catch (Harvest)	Northern Pike Catch (Harvest)	Yellow Perch Catch (Harvest)	Black Crappie Catch (Harvest)	SM Bass Catch(Harvest)
2008	69,634	60,719 (25,692)	844 (66)	271 (202)	6,289 (1,820)	171 (40)
2007	78,520	35,326 (20,092)	961 (274)	794 (649)	1,785 (1,584)	644 (177)
2006	71,517	45,648 (18,397)	486 (66)	631 (405)	1,677 (1,526)	728 (123)
2005	79,613	22,643 (13,473)	1,707 (593)	2,382 (2,201)	4,085 (2,438)	800 (296)
2004	115,146	65,050 (26,419)	8,268 (1,522)	923 (724)	1,788 (1,330)	2,013 (758)
2003	135,476	85,461 (35,395)	11,367 (2,069)	5,293 (4,337)	2,216 (1,770)	2,695 (787)
2002	116,259	82,381 (32,420)	7,694 (1,652)	12,953 (7,501)	2,452 (1,942)	2,039 (750)
2001	125,710	59,663 (18,108)	7,115 (2,486)	3,547 (3,140)	631 (530)	1,612 (455)
2000	130,175	100,774 (35,274)	13,937 (2,191)	18,938 (14,644)	334 (334)	2,551 (369)
1999	182,813	142,329 (71,339)	29,029 (5,436)	11,679 (9,196)	328 (303)	671 (328)
1998	162,913	162,957 (57,951)	23,983 (3,523)	13,396 (11,243)	2,121 (2,052)	799 (142)
1997	178,061	198,644 (62,877)	52,247 (11,072)	11,983 (8,729)	1,144 (926)	63 (0)

**Table 15.** Number of interviews and estimates of catch and harvest rates (number/hour) on Lake Thompson from May through August, 1997-2008.

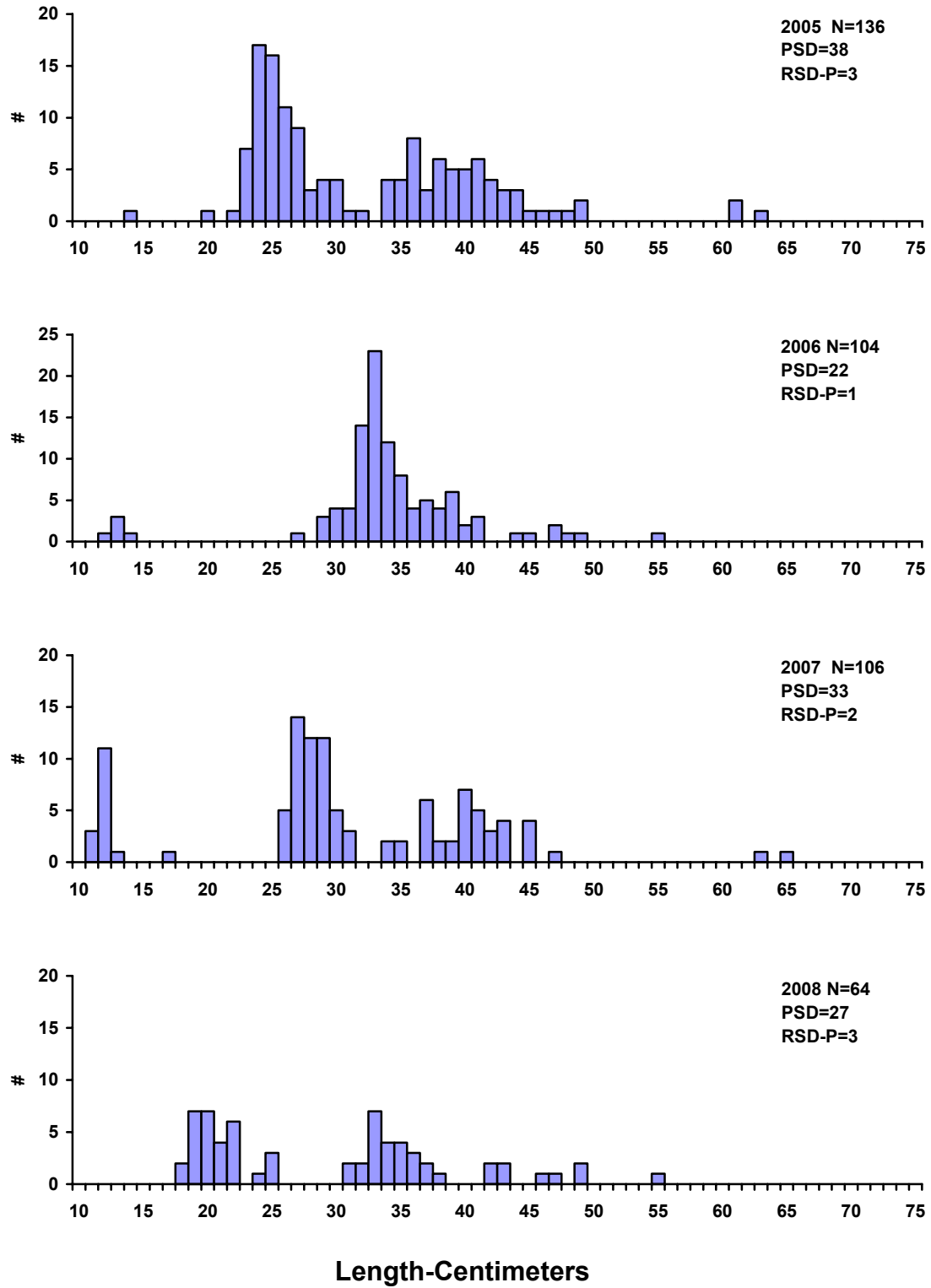
Year	Number of Interviews	Walleye Catch (Harvest)	Northern Pike Catch (Harvest)	Yellow Perch Catch (Harvest)	Black Crappie Catch (Harvest)	SM Bass Catch (Harvest)
2008	155	0.87 (0.28)	0.01 (0.001)	0.004 (0.003)	0.09 (0.05)	0.003 (0.001)
2007	322	0.45 (0.26)	0.01 (0.003)	0.01 (0.008)	0.02 (0.02)	0.008 (0.002)
2006	233	0.64 (0.26)	0.007 (0.001)	0.009 (0.006)	0.02 (0.02)	0.01 (0.002)
2005	310	0.29 (0.17)	0.02 (0.007)	0.03 (0.03)	0.05 (0.03)	0.01 (0.004)
2004	599	0.56 (0.23)	0.07 (0.01)	0.008 (0.006)	0.02 (0.01)	0.02 (0.01)
2003	431	0.63 (0.26)	0.08 (0.02)	0.04 (0.03)	0.02 (0.01)	0.02 (0.01)
2002	551	0.71 (0.28)	0.07 (0.01)	0.11 (0.06)	0.02 (0.02)	0.02 (0.01)
2001	566	0.47 (0.14)	0.06 (0.02)	0.03 (0.03)	0.01 (0.01)	0.01 (0.01)
2000	279	0.77 (0.27)	0.11 (0.02)	0.15 (0.11)	0.01 (0.01)	0.02 (0.01)
1999	435	0.78 (0.39)	0.12 (0.04)	0.06 (0.05)	0.01 (0.01)	0.01 (0.01)
1998	854	1.00 (0.36)	0.18 (0.03)	0.08 (0.07)	0.01 (0.01)	0.01 (0.01)
1997	531	1.16 (0.35)	0.29 (0.06)	0.07 (0.05)	0.01 (0.01)	0.01 (0)

## **MANAGEMENT RECOMMENDATIONS**

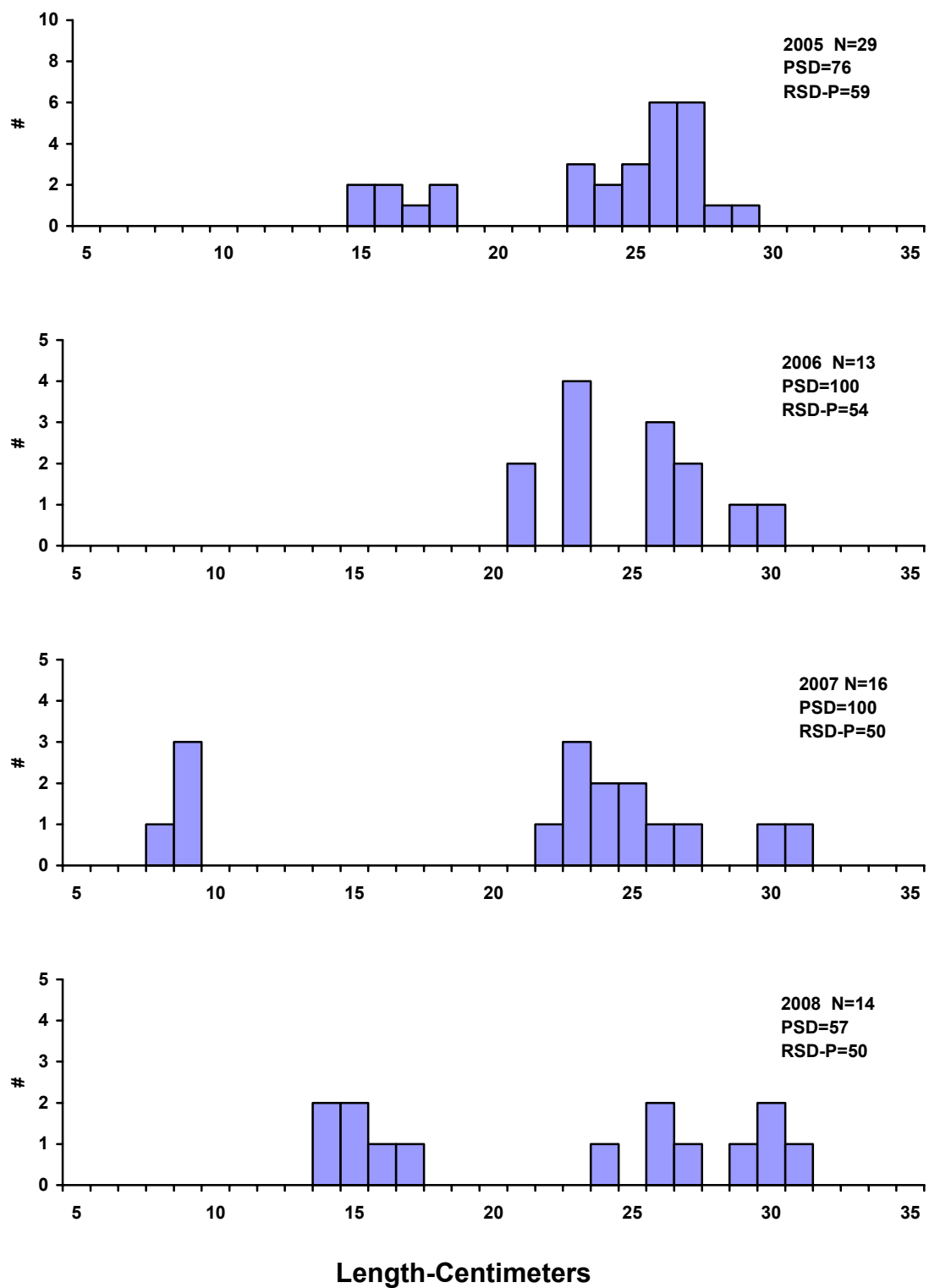
1. Continue to monitor general fish populations in Lake Thompson with annual netting surveys and conduct fall electrofishing surveys to monitor walleye recruitment.
2. Stock walleye fry when fall electrofishing indicates failed natural reproduction.
3. Maintain usable access during low water periods.

**Table 16.** Stocking record for Lake Thompson, Kingsbury County, 1991-2008.

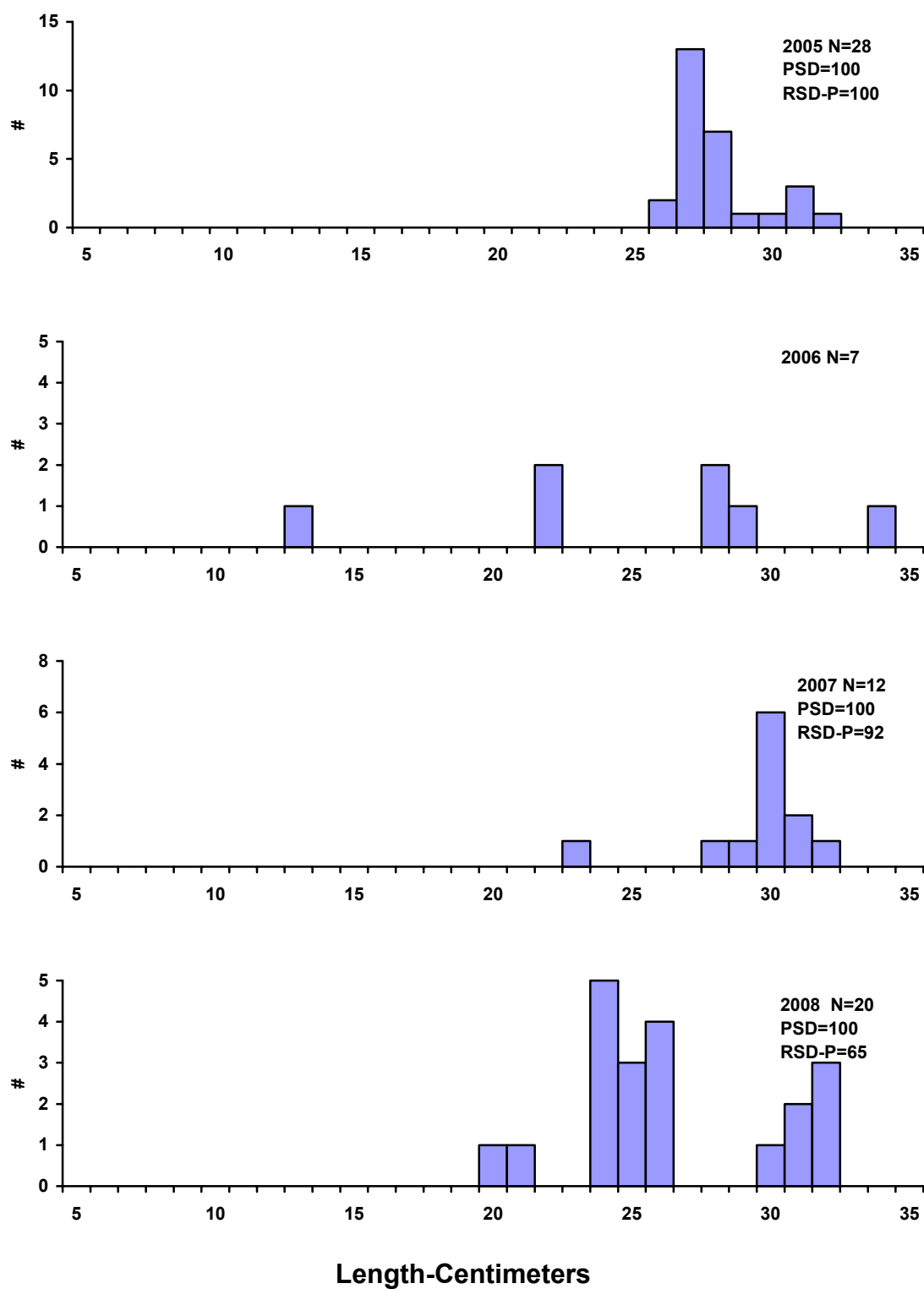
Year	Number	Species	Size
1991	283	Walleye	Adult
	52,038	Largemouth Bass	Sml. Fingerling
	10,850	Largemouth Bass	Med. Fingerling
	30,000	Smallmouth Bass	Fingerling
	160	Gizzard Shad	Adult
1995	60,000	Largemouth Bass	Fingerling
	100,000	Smallmouth Bass	Fingerling
1996	99,270	Largemouth Bass	Fingerling
	151,870	Smallmouth Bass	Fingerling
2004	10,000,000	Walleye	Fry
2006	6,250,000	Walleye	Fry
	17,935	Walleye	Lrg. Fingerling



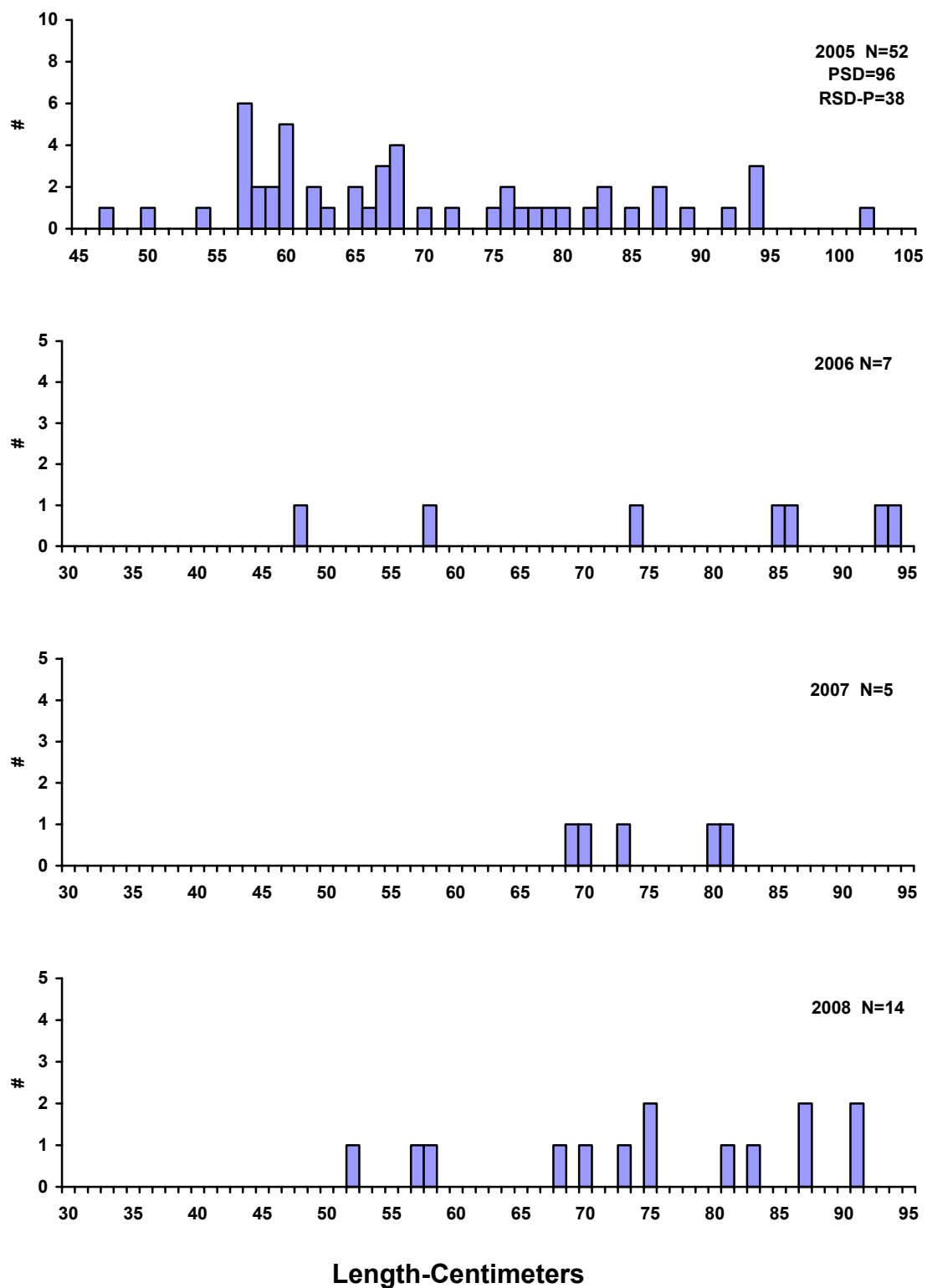
**Figure 1.** Length frequency histograms for walleye sampled with gill nets in Lake Thompson, Kingsbury County, 2005-2008.



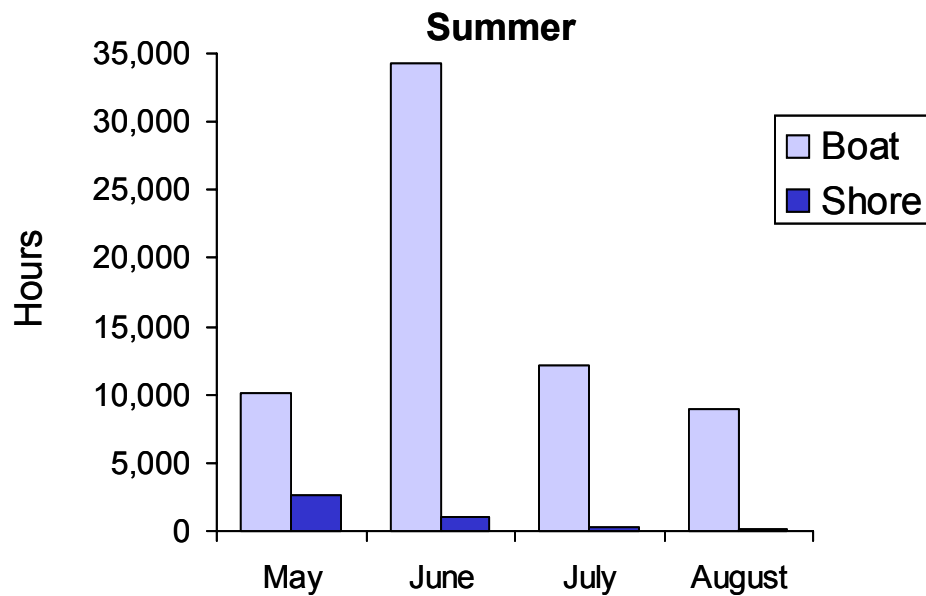
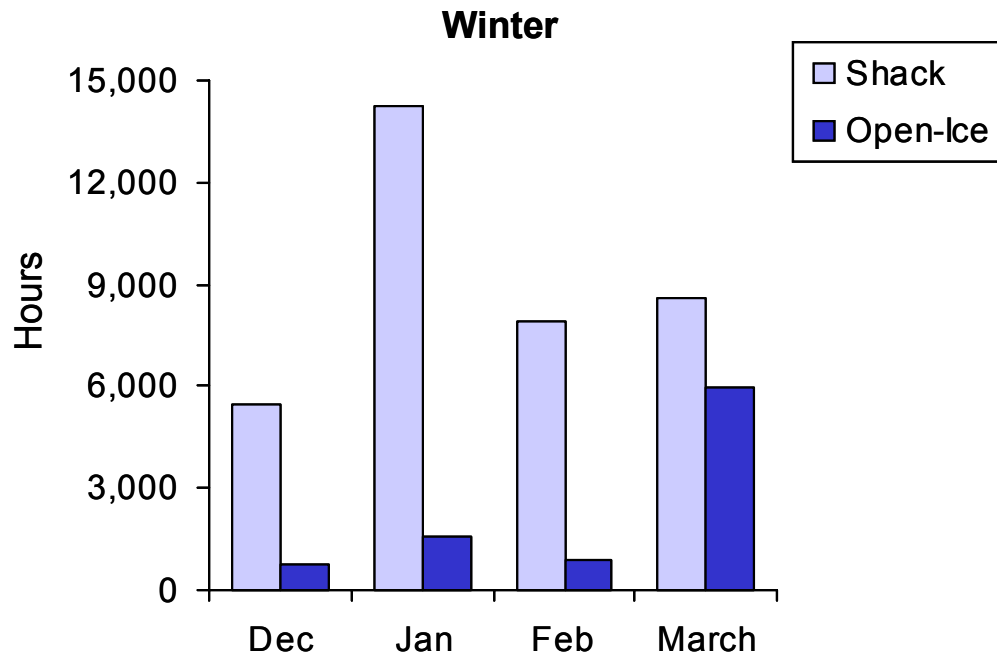
**Figure 2.** Length frequency histograms for yellow perch sampled with gill nets in Lake Thompson, Kingsbury County, 2005-2008.



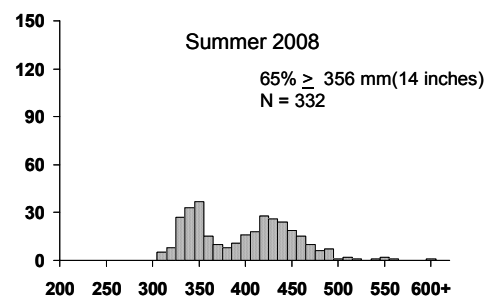
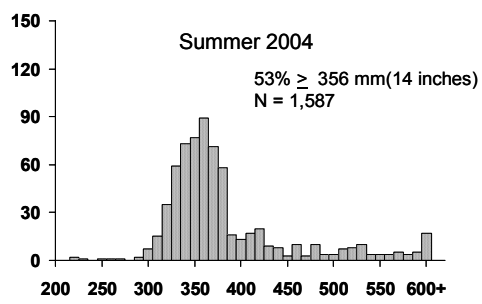
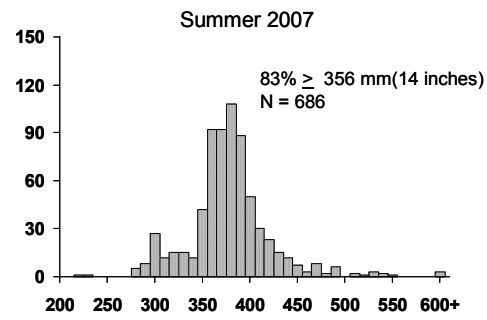
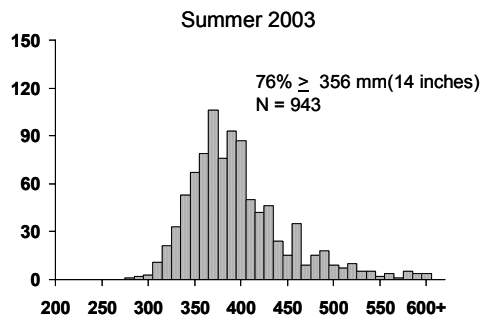
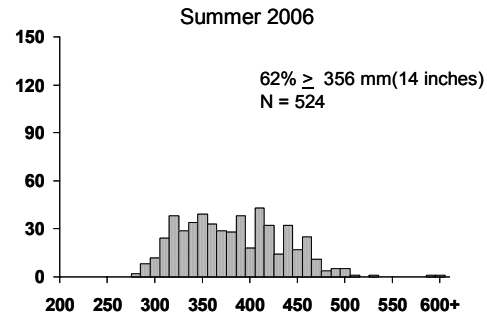
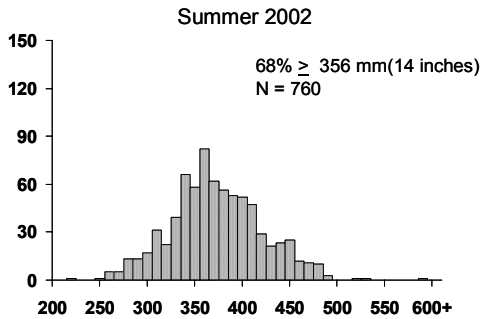
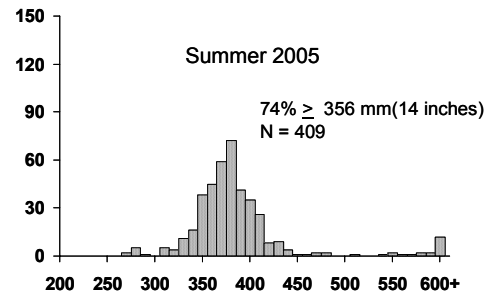
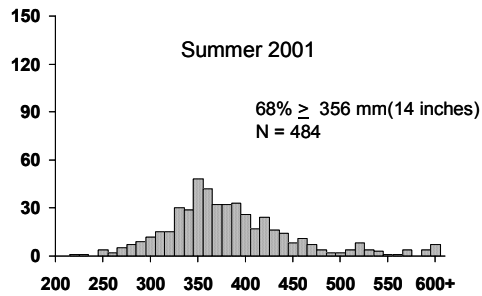
**Figure 3.** Length frequency histograms for black crappies sampled with trap nets in Lake Thompson, Kingsbury County, 2005-2008.



**Figure 4.** Length frequency histograms for northern pike sampled with trap nets in Lake Thompson, Kingsbury County, 2005-2008.



**Figure 5.** Monthly fishing pressure on Lake Thompson during winter 2007-08 (top) and summer 2008 (bottom).

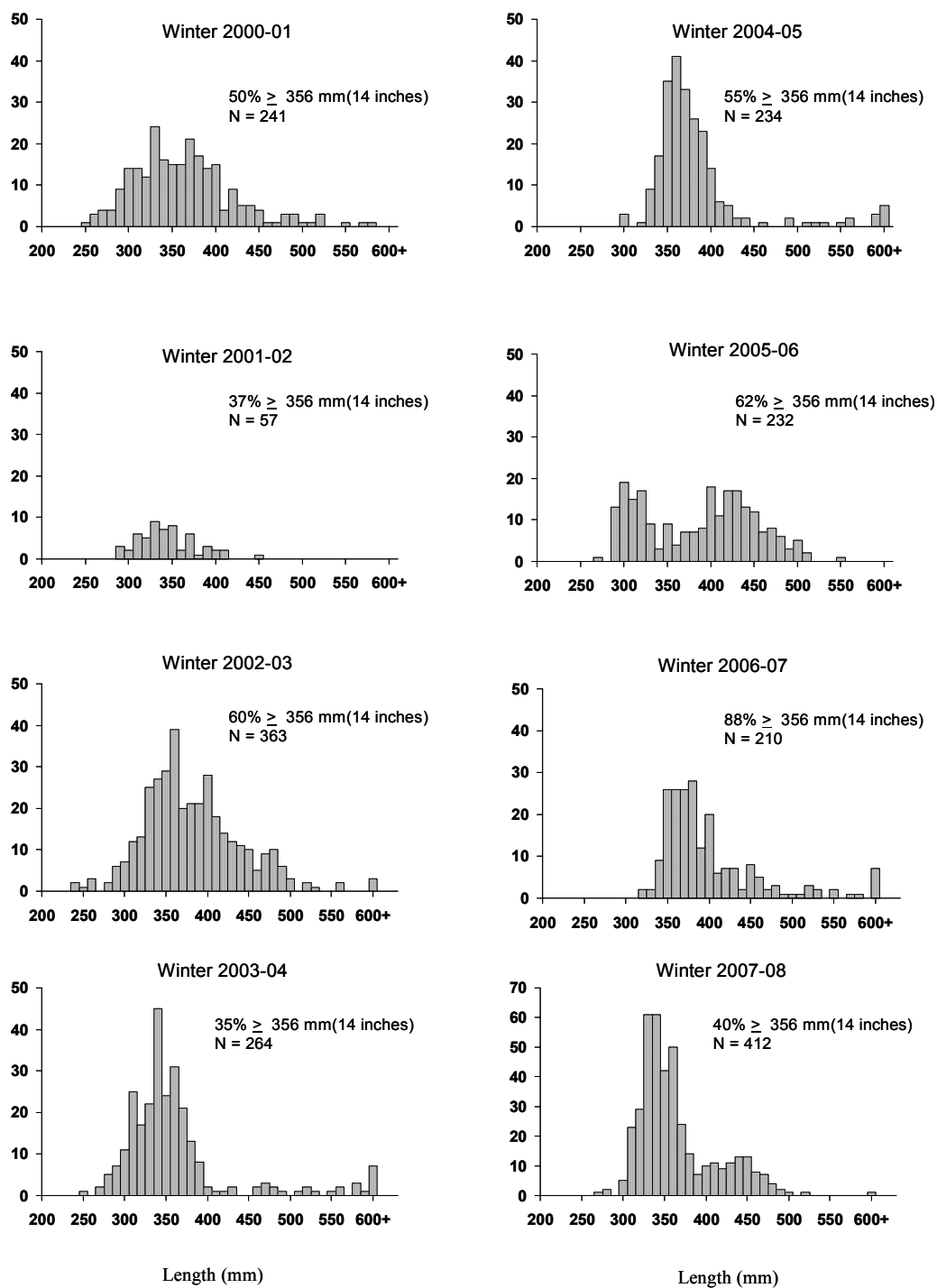


Length (mm)

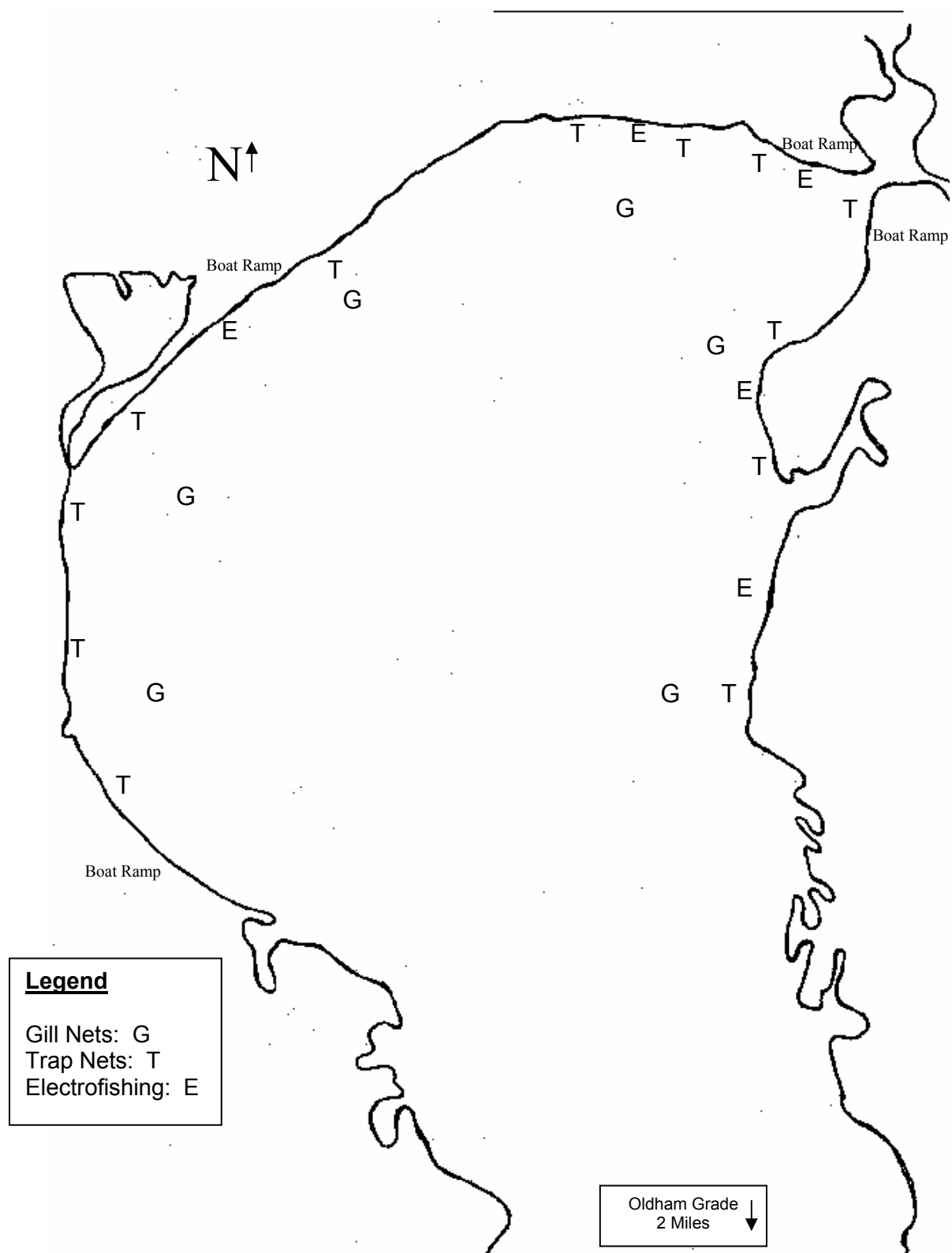
Length (mm)

**Figure 6.** Length frequency of angler-harvested walleyes measured by the creel clerk during summer creel surveys on Lake Thompson, 2001-2008.





**Figure 7.** Length frequency of angler-harvested walleyes measured by the creel clerk during winter creel surveys on Lake Thompson, 2000-2008.



**Figure 8.** Sampling locations on Lake Thompson, 2008.

**Appendix A.** A brief explanation of catch per unit effort (CPUE), proportional stock density (PSD), relative stock density (RSD) and relative weight (Wr).

**Catch Per Unit Effort (CPUE)** is the catch of animals in numbers or in weight taken by a defined period of effort. Can refer to trap-net nights of effort, gill-net nights of effort, catch per hour of electrofishing, etc.

**Proportional Stock Density (PSD)** is calculated by the following formula:

$$\text{PSD} = \frac{\text{Number of fish} > \text{quality length}}{\text{Number of fish} \geq \text{stock length}} \times 100$$

**Relative Stock Density (RSD-P)** is calculated by the following formula:

$$\text{RSD-P} = \frac{\text{Number of fish} > \text{preferred length}}{\text{Number of fish} \geq \text{stock length}} \times 100$$

PSD and RSD-P are unitless and usually calculated to the nearest whole digit.

Size categories for selected species found in Region 3 lake surveys, in centimeters.

Species	Stock	Quality	Preferred	Memorable	Trophy
Walleye	25	38	51	63	76
Sauger	20	30	38	51	63
Yellow perch	13	20	25	30	38
Black crappie	13	20	25	30	38
White crappie	13	20	25	30	38
Bluegill	8	15	20	25	30
Largemouth bass	20	30	38	51	63
Smallmouth bass	18	28	35	43	51
Northern pike	35	53	71	86	112
Channel catfish	28	41	61	71	91
Black bullhead	15	23	30	38	46
Common carp	28	41	53	66	84
Bigmouth buffalo	28	41	53	66	84
Smallmouth buffalo	28	41	53	66	84

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For most fish, 30-60 or 40-70 are typical objective ranges for “balanced” populations. Values less than the objective range indicate a population dominated by small fish while values greater than the objective range indicate a population comprised mainly of large fish.

**Relative weight (Wr)** is a condition index that quantifies fish condition (i.e., how much does a fish weigh for its length). A Wr range of 90-100 is a typical objective for most fish species. When mean Wr values are well below 100 for a size group, problems may exist in food and feeding relationships. When mean Wr values are well above 100 for a size group, fish may not be making the best use of available prey.